

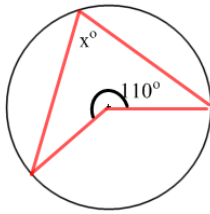
Directions: All questions must be completed on loose leaf. A calculator is allowed. Please reduce any fractions to lowest terms. Place a box around your final answer. **ALL WORK MUST BE SHOWN FOR FULL VALUE.**

Part A: Please answer all questions.

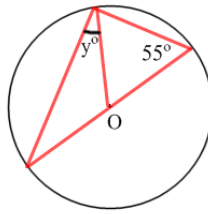
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1. Determine the Unknown Values. Round to the nearest tenth where necessary. 1 mark each

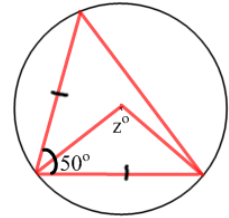
a)



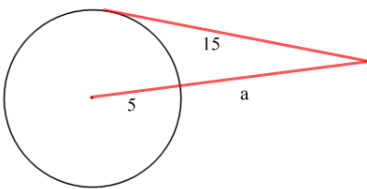
b)



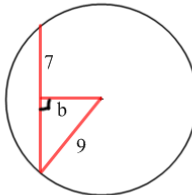
c)



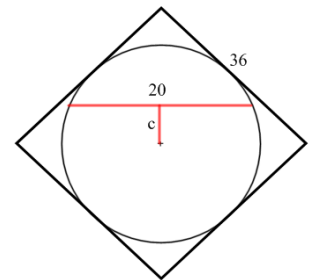
d)



e)



f)



2. Solve the following

a) $\frac{4x+3}{6x} = \frac{1}{3}$

b) $-5(2x+3) > 2(-4x+3)$

2 marks each

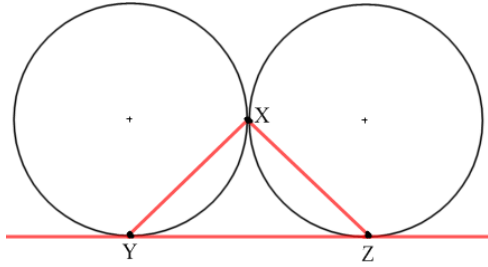
c) $\frac{y}{2} + \frac{6}{9} = \frac{5}{6}$

Part B: Please answer all questions. 3 marks each

/12

- Two boxes of pencils and three loose pencils yield a total of 31 pencils. How many pencils are in each box? Write an equation and solve for the number of pencils in each box.
- You are a Fredericton City Councilor and you want to know if the residents of Fredericton want the city to build a new Sports Stadium in hopes of bringing a CFL franchise to town.
 - What population are you interested in surveying?
 - Would you survey a population or a sample? Explain.
 - If you had to use a sample, what would you do to make sure that your conclusions were valid?
- Using the following equation, $y - 2x = -3$
 - Create a table of values for the values of $x = -2, 0, 2$.
 - Graph the ordered pairs.

4. Both circles are identical in size. They are tangent to each other and to line YZ. If the diameter of each circle is 12 cm, what is the perimeter of $\triangle XYZ$?

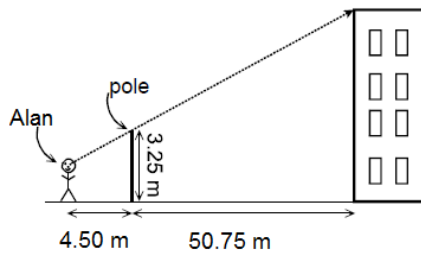


Part C: Complete question 1 and choose any 2 of the remaining 3 questions.
4 marks each.

/12

1. Solve: $\frac{3(x+1)}{8} + \frac{2(x-2)}{6} = \frac{(x+5)}{3} + 3$
 (If a fraction - then leave in fraction form)

2. Alan wants to find the height of a building. In the middle of a level parking lot, next to the building, there is signpost whose top Alan measures to be 3.25 m above the ground and 50.75 m from the building. When Alan backs up from the sign post, away from the building until the top of the post just lines up with the top of the building. At this point he is 4.50 m away from the signpost. Calculate how tall the building is, if Alan's eyes are 1.75 m from the ground.



3. A quiz has 10 true / false questions.
- What is the theoretical probability of answering any question correct by guessing?
 - How could you model an experiment of 10 trials to represent the quiz?
 - Complete 10 trials of your model and record the experimental probability of guessing correctly on a question.
4. If AB is a tangent to the circle:
- Solve for the value of x .
 - Calculate the measure of $\angle ABC$ and $\angle ACB$?

